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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MOORE, KARLA A

ART UNIT PAPER NUMBER

1763

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/656,334

Applicant(s)

MAKINO ET AL.

Examiner

Karla Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,7-20,23 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,7-20,23 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 7, 9 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,143,082 to McInerney et al.

3. McInerney et al. disclose a vacuum processing apparatus comprising: two processing chambers (Figures 1-3, any adjacent two of A-D), each processing chamber having a processing table (112, 114, 116 and 118) for supporting an object to be processed and carrying out the processing using a gas; a transfer unit (104) coupled to said two adjacent processing chambers which transfers the object to be processed at least one of to and from at least one of said two adjacent processing chambers; and a mass flow controlling unit (Figure 3, 150; column 4, row 66 through column 5, row 6) disposed between said two adjacent chambers for directly supplying gas to each of said adjacent processing chambers for enabling processing of the object to be processed when supported on the processing table thereof.

4. The mass flow controlling unit is disposed between (at the center of) all of the processing chambers. For example, if viewed from above (as in Figure 2), the mass flow controlling unit would be located between adjacent processing chambers.

5. With respect to claims 7, the mass flow controller is disposed between said two adjacent processing chambers without being fluidly connected to the transfer unit (see Figure 3).

6. With respect to claims 9 and 23, said two adjacent processing chambers are detachably connected to said transfer unit (See Figure 1).

Claim Rejections - 35 USC § 103

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7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 8 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over McInerney et al.

10. McInerney et al. disclose the invention substantially as claimed and as described above.

McInerney et al. further disclose a plurality of mass flow control devices (column 4, rows 2-7 and column 5, row 1-15). The plural controllers can control gas flow to each of the chambers as desired (e.g. together or separately). With respect to the vertical arrangement of the parts, the courts have ruled that the mere rearrangement of parts which does not modify the operation of a device is prima facie obvious. In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950). In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975).

11. It would have been obvious to one of ordinary skill in the art that the plural controllers could be arranged in a vertical direction, if desired. This would simply be a design choice that did modify the operation of the device.

12. said two adjacent processing chambers are detachably connected to said transfer unit (See Figure 1).

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13. Claims 10-14, 16-17 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,143,082 to McInerney et al. in view of by Japanese Patent No. 08-127861 A to Naito et al.

14. McInerney et al. disclose a vacuum processing apparatus substantially as claimed and comprising: two vacuum processing chambers (Figures 1-3, any adjacent two of A-D) disposed adjacent one another and being detachably connected to the vacuum processing apparatus; and plural controllers (Figure 3, 150; column 4, row 66 through column 5, row 6 and column 4, rows 2-7) which control the supply of the processing gas directly into each of the two adjacent vacuum processing chamber so as to enable processing of the wafer disposed therein, the plural controllers being disposed between the two adjacent processing chambers.

15. The mass flow controlling unit is disposed between (at the center of) all of the processing chambers. For example, if viewed from above (as in Figure 2), the mass flow controlling unit would be located between adjacent processing chambers.

16. However, McInerney et al. fail to teach the two adjacent vacuum processing chambers being supplied with a processing gas to generate plasma utilized for processing a wafer disposed therein.

17. Naito et al. teach providing plasma generation means and a plasma processing gas to adjacent chambers of a plural vacuum chamber treating device for the purpose of performing a cleaning process to decompose away reaction by-products (abstract).

18. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided providing plasma generation means and a plasma processing gas in McInerney et al. in order to decompose away reaction by-products as taught by Naito et al.

19. With respect to claim 11, the apparatus further comprises a transfer unit (104) for enabling transfer of the wafer, wherein the two adjacent vacuum processing chambers are detachably connected to the transfer unit so as to enable transfer of the wafer between a respective vacuum processing chamber and the transfer unit.

20. With respect to claim 12, which is drawn to the shape of the transfer unit, the courts have ruled that changes in shape are a matter of choice which a person of ordinary skill in the art would have found

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obvious absent persuasive evidence that the particular configuration of the claimed container was significant. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

21. With respect to claims 13, 16 and 19, as described in a passages of McInerney pointed out above (column 4, rows 2-7 and column 5, row 1-15), plural controllers can control gas flow to each of the chambers as desired (e.g. together or separately). With respect to the vertical arrangement of the parts, the courts have ruled that the mere rearrangement of parts which does not modify the operation of a device is *prima facie* obvious. *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950). *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975).

22. With respect to claims 14, 17 and 20, the plural controllers are disposed in a space between the two adjacent processing chambers. The mass flow controlling unit is disposed between (at the center of) all of the processing chambers. For example, if viewed from above (as in Figure 2), the mass flow controlling unit would be located between adjacent processing chambers.

Allowable Subject Matter

23. Claims 15 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

24. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach or fairly suggest a vacuum processing apparatus as claimed and further comprising plural controllers detachable from the vacuum processing apparatus as one unit. Additionally, no other prior art was located which had the missing feature/teaching described above along with the requisite motivation for combination with the prior art of record.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 9:00 am-6:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Karla Moore
Primary Examiner
Art Unit 1763
17 April 2006